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ABSTRACT

The purpose of an inquiry was to study the feasibility, content, mediation, and results of the Swedish "Forests in Schools" (SIS) project, an example of a link between schools and working life (the latter represented by forest enterprise in general). It also sought to describe and, if possible, explain the effects of the activities conducted at the senior level of compulsory school. Data included interviews with students, teachers, workers, and the forest industry; results of a test on forests and the forest industry administered to students; and student questionnaires. The forest enterprise joined the SIS project mainly for information dissemination. Schools sought to augment their contacts with working life. The content of the project included inservice teacher training and student activities (ground clearing, seedling planting, field trips). The collected information indicated that the knowledge conveyed to students about working life in the broad sense was not unduly penetrating; no reliable differences were revealed between participating students and other students; participating students acquired additional knowledge of biology and certain skills, depending on activities in which they took part; and roughly half the students who completed SIS activities adopted a neutral attitude toward SIS. (YLB)

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Working life
Evaluation

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Concluded project

TITLE OF PROJECT: SYSTEMATIC EVALUATION OF THE "FORESTS IN SCHOOLS" [x] (SIS) PROJECT

Many different arrangements are being practised today to establish links between schools and working life. Forests in Schools (SIS) is one such example of a scheme whereby contacts between schools and "forest industry" have been regularised and intensified.

The project sets out to answer the following and other questions. What are the underlying reasons for the interest shown by schools and forest industry in this co-operation? How do links between schools and enterprise operate today? What view do the trade union organisations, the National Board of Education and the forest industry take of schools, working life and the link between them? How do they regard the activities of SIS? How has SIS worked in practice, especially at the senior level of compulsory school? What has been the content of SIS activities, how have contacts been arranged and what are the principal results at pupil level?

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[x] cf. "projekt learning tree"

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Background

"Forests in Schools" (SIS) is the working name for the experimental activities launched in 1973 at the instance of the Department of In-service Training in Umeå together with a number of representatives of forest industry. The Malmö and Göteborg departments also joined in the experimental scheme at an early stage.

The experimental scheme was partly based on a follow-up of the 1975 SIA (Internal Work of Schools) Bill concerning compulsory schools, in which reference was made, for example, to changing working methods in schools, necessary co-operation between schools and the employment sector and a development of methods whereby pupils could acquire knowledge in a manner that was both engaging and meaningful (cf. the Compulsory School Curriculum, Lgr 80). The content of the in-service courses provided within SIS for "information officers" and teachers has been partly based on various environmental issues, ecological relationships, at both global and local levels. One point of departure for forest industry has been rapid change and its consequences during the late 1960s, the 1970s and the early 1980s in silviculture, forestry work, transport and the upgrading of raw materials.

The experimental activities were conducted using a three-stage working model. (This model is still being used today.) Stage 1 was initially addressed mainly to county education committee in-service training advisers for the junior, intermediate and senior levels of compulsory school, to teaching teams from teacher training establishments all over the country and, from 1979 onwards, to representatives of forest enterprise. The range of information officers was gradually widened. Training mostly takes the form of centralised one-week courses. In stage 2 the information officers are required to disseminate their experience to the teachers by arranging holiday courses, in-service days, excursions etc. both regionally and locally, in response to the participants' individual needs and preferences. Stage 3, finally, involves putting pupils in touch with working life, partly by means of project-based and investigative studies.

To begin with the experimental activities mainly involved compulsory school, but since 1977 they have also included pre-school education, upper secondary schools, folk high schools and teacher training establishments. The experimental activities have also involved public authorities and organisations, e.g. the National Environment Protection Board, the environmental protection units of State County Administrations, the Swedish Society for the Protection of Nature, the Field Biologists, and the Society for the Promotion of Outdoor Life. The structure and content of the courses have been gradually changed as the experiment has progressed.

Some points of departure

It is reasonable to suppose that the parties involving themselves in SIS activities have special reasons for doing so. Probably they are concerned above all with obtaining positive effects on their own organisations (but also with helping their partner in co-operation).

A number of self-interested motives can be distinguished in the case of forest enterprise. For one thing, this sector is always needing to recruit labour, and then again it needs to distribute information about itself. Intensified co-operation with schools can help to achieve both ends.

One reason from the viewpoints of schools is probably that they have become increasingly theoretical and remote from working life. There is nothing very new about saying that schools today have difficulty in stimulating certain groups of pupils. Truancy and discipline problems are examples of this. Co-operation of this kind with forest enterprise can provide schools with a means of counteracting school fatigue, of overcoming the monotony of everyday life and doing something completely different. This expectation of change is doubtless entertained by both teachers and pupils. SIS activities probably fit in nicely with the search in which schools are engaged for renewal and closer contacts between schools and enterprise can help in this direction.

On a societal level there are also hopes and expectations of an augmentation of contacts between schools and working life, expressed partly by union organisations of various kinds and in curricula. In

this way it is thought that pupils will have more opportunity of "coming into contact with reality" and coming to terms with working life.

PURPOSE, STRATEGY AND DATA MATERIAL COLLECTED

Based on an approach whereby SIS activities are put in their social context and regarded as an example of the link between schools and working life (the latter being represented here by forest enterprise in general), the purpose of this inquiry has been:

- to study the feasibility, content, mediation and results of SIS activites,
- to describe and if possible explain the effects of the activities conducted at the senior level of compulsory school.

The theoretical pilot study with which the project began involved analysing the conditions and feasibility of contacts between schools and working life. The analysis was conducted in a societal perspective in which the prevailing school ideology and working life were confronted with one another. Among other things the frame of reference was made to focus on overt and covert motives inducing different interest groups to involve themselves in links between schools and working life, problems concerning qualifications, and the goals and guidelines of school work viewed in relation to the prevailing structure of society. In planning the project, a survey was also undertaken, for example, of the scope of SIS activities in Sweden and the way in which those activities were regarded by persons actively involved in schools and forest enterprise.

Co-operation between schools and working life has also been studied and considered in an international perpective, with particular emphasis on the Nordic countries. Schools and forest enterprise have been chosen as an example of the efforts made to establish this co-operation. Very briefly, full-scale, co-ordinated activities resembling SIS do not occur in any other country except the USA. On the other hand, interest in co-operation between forest enterprise and schools appears to be quite considerable and growing rapidly in our neighbouring Nordic countries (especially Norway and Finland). We can presumably expect a

heavy expansion of the activities which have been inaugurated in many places.

The evaluation involved three analytical levels, viz a macrolevel (at which the relationship between schools and working life was analysed), a medium level (at which SIS activities were analysed) and a microlevel (at which activities at pupil and teacher level were analysed). Observations and assumptions made, for example, concerning SIS activities at macrolevel have also governed the subordinate levels. A similar line of thought has been presented here through the concepts of "feasibility", "process" and "results". The theoretical evaluation involved here has meant combining strenuous intensive studies with certain extensive surveys, combining qualitative methods (e.g. observations and interviews) with quantitative ones (questionnaires and tests) and focusing single individuals against groups of individuals.

For several reasons (e.g. the research focus, finaucial resources and personnel strength) it was decided that the evaluation was to focus on the senior level of compulsory school and on a small number of classes. It was also obvious that there were more problems at senior level than, for example, at junior level. For one year, therefore, the evaluation has followed four senior level classes in grade 8 and their activities with reference to "Forests in Schools". This was done partly by means of observations, interviews, questionnaires and tests. The schools involved received municipal grants for the conduct of Forests in Schools activities. Two of the classes had already been engaged in forest activities for a couple of years before the evaluation began. The other two inaugurated Forests in Schools activities at the same time as work began on collecting empirical data for the evaluation.

The material is voluminous. The 60 pupils taking part in the project were interviewed concerning their opinions about school, work/working life and links between schools and working life, as well as their specific opinions concerning the Forests in Schools project. These 60 pupils represent about half of all pupils in the four intensive classes (grade 8) followed during the project.

Interview material also exists from teachers who attended Forests in Schools INSET courses and are serving in the schools which include the

intensive classes. The interviews dealt with questions concerning schools and working life in general and Forests in Schools in particular.

Interviews were also conducted with representatives of the LO (manual workers'), TCO (salaried workers') and SACO-SR (graduate employees') union organisations, the Employers' Confederation, the NBE, forest industry and the Environmental Association, the intention being to canvass the views of these organisations concerning relations between schools and working life. The Forests in Schools project has served as an example of links between schools and working life.

As part of the evaluation process, and during the year in which empirical data were collected, a test was conducted on the subject of forests and forest industry in the broad sense. The object of this test was to ascertain to some extent the differences in knowledge concerning forests, forestry, forest enterprise etc. between pupils who had taken part in SIS activities and those who had not done so. This test has been administered to classes all over the country, from Halland in the south to Norrbotten in the north. Altogether about 250 pupils have taken part.

The empirical material also includes a questionnaire which was distributed to about 250 senior level pupils, all of whom had been active to a greater or lesser extent in the Forests in Schools project and had replied to questions in the questionnaire concerning school, working life and the Forests in Schools project. The questionnaire can be partly regarded as supplementing the interviews of pupils in the intensive classes. This questionnaire makes it possible for intensive data to be related to extensive data.

Finally there is also interview material at local level. Representatives of the In-service Training Department, of the Forests in Schools steering group, of the "More Forest in Västerbotten" group and of silvicultural personnel taking part as expert representatives of the forest sector were all interviewed.

SOME FINDINGS

The empirical material collected in the course of the project is mainly presented under three main headings, viz Conditions, Process and Results. Some empirical material comes under several headings, while other material can be presented under one heading only.

Conditions

The term conditions as used here refers to outward, societal and inward, educational conditions.

There are several reasons why SIS activities fitted in so well with co-operation between schools and working life at the beginning of the 1970s. Probably the main reason for forest enterprise joining the SIS project was that forestry at that time was being criticised by the media, for example on account of pesticide spraying and clear-felling. Forest enterprises found this criticism unfair and inaccurate. Participation in the SIS project was seen as an opportunity for the forestry sector to disseminate its own information. Recruitment problems may also have provided a reason for banking on the school population.

There was/is a strong desire on the part of schools to augment their contacts with working life. Schools were criticised, for example, as excessively theoretical and as providing insufficient stimulus for large pupil categories. Contact between schools and the forestry sector provided an opportunity of partly solving the current problems and of putting pupils "in touch with reality". Schools may also have been prompted by a desire to measure up to the intentions of the Curriculum concerning co-operation with working life.

Process

The term process refers to the main events affecting the content of the project (at local level) during the school year in which various SIS activities were subjected to observation. Class activities have their appointed place in a process description of this kind. Topics reported in the course of the project have included in-service teacher training

and activities in the schools investigated (e.g. lectures and lessons, field trips and forest excursions).

The general opinion of teachers is that the in-service training offered is well-planned, well-constructed and well-conducted. On the other hand, many teachers have felt that they do not know enough about "the forest sector" that they need further INSET opportunities if they are to make use of this knowledge in their teaching. One also finds a wide selection of activities. For example, the pupils can clear ground, plant seedlings, and go on field trips to felling areas, papermills, joinery factories, sawmills etc. These activities are found to be stimulating and interesting. To the pupils they came as enjoyable, motivating elements of school work. They tend, however, to be spot measures, at least at senior level, and excessively superficial in content. The pupils are hardly given the opportunity of deepening their knowledge of important problems such as chemical pesticides, the closure of forest industries and so on. The field trips too tend to be quite superficial and are partly regarded by the pupils as an opportunity of getting out of school. Some field trips, indeed, closely resemble an ordinary lesson, with half the time spent in "a classroom" for information and the other half walking round the place which is being visited. The type of activity represented by field trips is considered part of the pupils' general schooling rather than a viable integration of school and working life.

Results

The heading "Results" refers to effect measurements of various kinds, obtained here by means of tests, questionnaires and interviews. One may ask what has happened at pupil level as a result of different efforts during the project. As has already been made clear, the knowledge conveyed about working life in the broad sense is not unduly penetrating. Nor do achievement studies (conducted by means of interviews and tests) reveal any reliable difference between pupils who have taken part in SIS activities (for at least a year) and those who have not done so. On the other hand, the former group has acquired some additional knowledge of biology (general science). These pupils have also developed certain skills (e.g. the use of axe and saw), depending on the activities they have taken part in. The SIS pupils also take a

somewhat more positive view of forest enterprise and forestry than other pupils.

Roughly half the pupils who have completed SIS activities adopt a neutral attitude towards SIS according to the questionnaire. This is probably because senior level pupils are not really given an opportunity of "internalising" the SIS activities. This is prevented by the practical problems involved in conducting SIS activities at the senior level of compulsory school, e.g. timetable changes, redeployment of lessons etc. These practical difficulties are so formidable that a single teacher cannot cope with the organisational problems more than a few times. Consequently the neutral attitude taken by the pupils is not surprising. They have simply not been given enough time to be influenced in one or the other direction.

Many teachers feel it is good for the pupils to get out into the forest. Several observe that it is good for them to have to do practical work, to have to exert themselves physically and to learn to adapt their clothing and other equipment to wind and weather. This is a sort of indication of the existence outside school of a world which is sometimes both grim and austere and at school, at any rate, is relatively carefree and comfortable. As regards the activities themselves, the teachers tend to dwell on the practical aspects/skills. These seem to be the main thing they would like to concentrate on. These are the things which deviate most from general school activities, putting new life into the monotony of the everyday routine and generally brightening things up.

There is a tendency for the various items usually occurring in SIS to be rapidly "knocked-off", so to speak. As the evaluation has shown, the pupils try their hand at a number of different things, e.g. clearing ground, planting seedlings and visiting factories and sawmills. Once this has been done, it may be hard to find a natural sequel. Several of the teachers suggest that looking after one's own forest would be the best way of imparting natural continuity to SIS. But the difficulty, as the teachers' replies make very clear, is that neither time nor timetabling facilities are sufficiently available for the conduct of such activities. Schools demand their pound of flesh and have their own internal tradition. The logic of that tradition is such

that projects like SIS will always have difficulty in gaining a foothold in schools today. This is particularly noticeable at senior level. On the other hand, activities of this kind can fit in quite well at junior and intermediate levels, and there is a great deal to suggest that they actually do so.

The closer one comes to a "differentiation or grading point" in school, the more difficult it is likely to be to organise projects like Forests in Schools. Subjects which carry marks and are rightly relevant to further studies appear to be more essential and to have a far more decisive bearing on individual careers than projects like SIS, which of course can be experienced as reinvigorating but at the same time as something which should not be taken really seriously.

One of the lessons to be drawn with a view to further efforts to promote co-operation between schools and working life is that careful consideration must be given to the conditions governing such efforts. Perhaps enthusiasm and general support for ideas are not enough if the organisation and conditions of real life operate in another direction?

If the SIS project is primarily regarded as an example of contacts between schools and working life, one finds that those contacts at their present stage of development are not without their problems. The situation involves an encounter between two firmly established and partly contradictory structures. In this encounter, two different conditions have to be reconciled. The evaluation sheds light on several of the difficulties besetting attempts to strengthen the links between schools and forest enterprise. Perhaps the evaluation can also supply input documentation for a broader and deeper discussion of problems affecting contacts between schools and working life in general?

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